

294857US0PCT.ST25.txt
SEQUENCE LISTING

<110> Nakaita, Yasukazu
Tsuchiya, Youichi
<120> A method for detecting and determining lactic acid bacterium
<130> 294857US0PCT
<140> 10/589389
<141> 2006-08-15
<150> PCT/JP05/02331
<151> 2005-02-16
<150> JP 2004-040381
<151> 2004-02-17
<160> 30
<170> PatentIn version 3.3
<210> 1
<211> 1565
<212> DNA
<213> Lactobacillus hexosus

<220>
<221> source
<222> (1)..(1565)
<223> strain="SBC8050"

<400> 1
ttggagagtt tgatcctggc tcaggacgaa cgctggcgcc gtgcctaata catgcaagtc
60
gaacgcacag atattaacag aagctgcttg cagtggaaagy taattgtatgt gagtggcgga
120
cgggtgagta acacgtgggt aacctaccca aaagtggggg ataacatgg gaaacagatg
180
ctaataccgc ataatttaag tgaccacatg gtcacttaat gaaagatgg ttcggctatc
240
acttttggat ggacccgcgg cgtattagct agttggtggg ataacggcct accaaggcga
300
tgatacgtag ccgacacctgag agggtaatcg gcccacattgg gactgagaca cggcccaaac
360
tcctacggga ggcagcgtta gggaatcttc cacaatggac gaaagtctga tggagcaacg
420
ccgcgtgagt gaagaagggtt ttccggatcgt aaaactctgt tgttggagaa gaacaggcac

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480

tagagtaact gttagtccta tgacggtata caaccagaaa gccacggcta actacgtgcc

540

gcagccgcg gtaatacgt a ggtggcaagc gttgtccgga tttattggc gtaaagc gag

600

cgcaggcggt ttttaagtgc tgatgtgaaa gccttcggct taaccgaaga agtgcattag

660

aaactggaa acttgagtgc agaagaggag agtggaaactc catgtgtac ggtgaaatgc

720

gtagatatat ggaagaacac cagtggc aa ggcggctctc tggtctgtaa ctgacgctga

780

ggctcgaag tatggggagc gaacaggatt agataccctg gtatgtccata ccgtaaacga

840

tgaatgctaa gtgttgagg gtttccgccc ttcatgtctg cagctaacgc attaaggatt

900

ccgcctgggg agtacgaccc caaggttga actcaaaggaa attgacgggg gcccgcacaa

960

gcgggtggagc atgtggttta attcgaagct acgcgaagaa ctttaccagg tcttgacatc

1020

cttgaccac tgttagagata cagcttcccc ttccggaca aagtgacagg tggtgtcatgg

1080

ttgtcgtag ctcgtgtcgt gagatgttg gttaaatccc gcaacgagcg caacccttat

1140

gactagttgc cagcattaag ttgggcactc tagtgagact gcccgtaca aaccggagga

1200

aggtggggat gacgtcaaat cagcatgccc cttatgacct gggctacaca cgtgctacaa

1260

tggttgtac aacgagttgc gaacccgcga gggtaagcta atctctaaa gccaatctca

1320

gttcggattt taggctgcaa ctcgcctaca tgaagtcgga atcgcttagta atcgccgatc

1380

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agcacgccgc ggtaaatacg ttccggggcc ttgtacacac cgcccgtaac accatgagag
1440
tttgtaacac ccgaagccgg tgggttaacc tctatgagga gctaaccgtc taagggtggga
1500
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1560
tcctt
1565

<210> 2
<211> 517
<212> DNA
<213> Lactobacillus hexosus

<220>
<221> source
<222> (1)..(517)
<223> strain="SBC8050"

<400> 2
cagttctgtt ttacatgg tttgggtctt cagtcgttaa cgctttgtct agccaattaa
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acgttgaggc cttaaagaa gaaaaacgct actatatggaa ttcaaggcgc gttaaagtta
120
atactgagct taaggtagc ggtacaattc cagaacatga acacggcaca attgttcatt
180
tttggcctga tcatgatatt tttagggaaa caaccgttta tgatattaaa attttaacaa
240
cgcgaattcg tgagttggcc ttttgaata agggtttacg aatttagcatt gaagattac
300
gtcctgagaa accgaccaaa gaagtttcc actatgaagg tggcattaag agttacgttgc
360
agtattttaga caacggtaag cacgatcttt ttccagagcc aatttacgtg gaagggtgacg
420
aaaaggaaat taagggttcaa gttgtttac aatacactga cgattaccac actaacttga
480
tgaccttcgc caataatatt catacctatg aagtggaa

<210> 3
<211> 1526
<212> DNA
<213> Lactobacillus pseudocollinoides

<220>
<221> source
<222> (1)..(1526)
<223> strain="SBC8057"

<400> 3
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120
acgtggtaa cctgcccaga agcaggggat aacacttggaa aacagggtgct aataccgtat
180
acaacaacaaa accgcatggt ttttgttga aagggtggttt cggctatcac ttctggaagg
240
accgcggcg tattagcttag ttgggtggagt aacgggttac caaggcaatg atacgttagcc
300
360
gacctgagag ggttaatcgcc cacattggga ctgagacacg gcccaaactc ctacgggagg
420
cagcagtagg gaatcttcca caatggacga aagtctgatg gagcaacgcc gcgtgagtga
480
agaagggtttt cggatcgtaa aactctgttg ttgaagaaga acacgtttga gagtaactgt
540
tcagacgttg acggatttca accagaaagc cacggctaac tacgtgccag cagccgcgg
540
aatacgttagg tggcaagcgt tatccggatt tattgggcgt aaagcgagcg caggcggtaa
600
cttaagtctg atgtgaaagc cttcggctta accggagaag tgcatacgaa actgggtAAC
660
ttgagtgcag aagaggacag tgaaactcca tgtgtagcgg tgaaatgcgt agatataatgg
720

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aagaacacca gtggcgaagg cggctgtcg gtcgttaact gacgctgagg ctgcggaa
780
tggtagcga acaggattag ataccctggt agtccatgcc gtaaacgatg aatgcttagt
840
gttgagggt ttccgccccctt cagtggccca gctaacgcata taagcattcc gcctggggag
900
tacgaccgca aggttggaaac tcaaaggaaat tgacgggggc ccgcacaagc ggtggagcat
960
gtggttaat tcgaagctac gcaagaacc ttaccaggtc ttgacataact gtgctaacct
1020
aagagattag gcgttccctt cggggacgca gatacagggt gtgcattggct gtcgtcagct
1080
cgtgtcgtga gatgttgggt taagtccgc aacgagcgca acccttattt tcagttgcca
1140
gcatttagtt gggcactctg gcgagactgc cggtgacaaa ccggaggaag gtggggatga
1200
ctcaagtca tcatgcccct tatgacctgg gctacacacg tgctacaatg gatggtacaa
1260
cgagttgcga actcgcgaga gcaagcta at ctcttaaagc cattctcagt tcggactgta
1320
ggctgcaact cgcttacacg aagtccgaaat cgcttagtaat cgccgatcg catgcccgg
1380
tgaatacgtt cccggccctt gtacacaccc cccgtcacac catgagagtt tgcaacaccc
1440
aaagtccgtt cggttaaccctt cgggagccag ccgcctaagg tggggcagat gattagggtg
1500
aagtccgtaac aaggttagccg taggag
1526

<210> 4
<211> 484
<212> DNA
<213> Lactobacillus pseudocollinoides

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<220>
<221> source
<222> (1)..(484)
<223> strain="SBC8057"

<400> 4
ctgggtgtc gcatggtgtg gggcatccgt gtgaacgcgc tgtctccgaa ctggacgtta
60
aggtcgttcg ggacggcaag cggtaactaca tggacttgc gtacggccac gttaagaccc
120
caatgaaggt cattgacgaa gggttaccag aaaacattcg cgggaccacg gtgcacttct
180
tgccggaccc agatattttc cgggaaacca ctacgtacga cattaagatc ctgaccaccc
240
ggatccgcga gctggcttc ttaaacaagg gtctgcgcata tactatccgt gatgagcggc
300
ctgacgagcc aactgaacaa tcctttatgt acgaaggcgg gatccgtcat tacgttgaat
360
attnaaataaa aaacaaggat gtcatttcc ctgaaccaat ctatgttcaa ggtgaagaaa
420
agggcatcac gggttgaagtt gcgttgcagt ataccgacga ctaccactca aacctgttga
480
cgtt
484

<210> 5
<211> 330
<212> DNA
<213> Pediococcus damnosus

<220>
<221> source
<222> (1)..(330)
<223> strain="SBC8023"

<220>
<221> misc_feature
<222> (19)..(19)
<223> n strands for any base

<400> 5
ttattgtgcc tgtcaaatnc aagttcttga aggttggaa gcagtttagaa aacgtcccgg

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aatgtatat t gggcaacaa gtgcccaagg actccatcat ttagtttggg aaattatttg
120

taacggaaatt gatgaagctt tagccgggtt tgcgataaa atcgatgtga cggttggaaa
180

agataatagc attacggttt ttgataatgg ccgaggaatt ccagttggaa tccaggctaa
240

gactggtaaa ccagccctag agacagttt cacaattttg catgcccgtg gtaagttgg
300

cggcggcggt tataaagttt caggtggta
330

<210> 6
<211> 21
<212> DNA
<213> Artificial

<220>
<223> a primer for *L. hexosus*

<400> 6
gcggtaaagt taatactgag c
21

<210> 7
<211> 20
<212> DNA
<213> Artificial

<220>
<223> a primer for *L. hexosus* or *L. pseudocollinoides*

<400> 7
atkccctttt cktcaccttc
20

<210> 8
<211> 18
<212> DNA
<213> Artificial

<220>
<223> a primer for *L. pseudocollinoides*

<400> 8
gttcgggacg gcaagcgg
18

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<210> 9
<211> 17
<212> DNA
<213> Artificial

<220>
<223> a primer for *P. damnosus*

<400> 9
aagttcttga aggtttg

17

<210> 10
<211> 16
<212> DNA
<213> Artificial

<220>
<223> a primer for *P. damnosus*

<400> 10
tcggccattt tcaaaaa

16

<210> 11
<211> 21
<212> DNA
<213> Artificial

<220>
<223> a primer

<400> 11
tggttaaata ccgtcaaccc t

21

<210> 12
<211> 20
<212> DNA
<213> Artificial

<220>
<223> a primer

<400> 12
ggataccgtc actgcatttt

20

<210> 13
<211> 18
<212> DNA
<213> Artificial

<220>

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<223> a primer

<400> 13

ttgaataccg tcaacgtc

18

<210> 14

<211> 20

<212> DNA

<213> Artificial

<220>

<223> a primer

<400> 14

ccatgtggtc acttaaattc

20

<210> 15

<211> 19

<212> DNA

<213> Artificial

<220>

<223> a probe

<220>

<221> modified_base

<222> (1)..(1)

<223> LC Red640 labelled

<220>

<221> modified_base

<222> (19)..(19)

<223> phosphorylated

<400> 15

cgccactcgc ttcatgtt

19

<210> 16

<211> 20

<212> DNA

<213> Artificial

<220>

<223> a probe

<220>

<221> modified_base

<222> (1)..(1)

<223> LC Red640 labelled

<220>

<221> modified_base

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<222> (20)..(20)
<223> phosphorylated

<400> 16
cgccacccac atccaataac

20

<210> 17
<211> 20
<212> DNA
<213> Artificial

<220>
<223> a probe

<220>
<221> modified_base
<222> (1)..(1)
<223> LC Red705 labelled

<220>
<221> modified_base
<222> (20)..(20)
<223> phosphorylated

<400> 17
cgccactcac tttatagttg

20

<210> 18
<211> 18
<212> DNA
<213> Artificial

<220>
<223> a probe

<220>
<221> modified_base
<222> (1)..(1)
<223> LC Red705 labelled

<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorylated

<400> 18
cgccactcat ccgatgtt

18

<210> 19
<211> 22
<212> DNA
<213> Artificial

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<220>
<223> a probe

<220>
<221> modified_base
<222> (22)..(22)
<223> FITC labeled

<400> 19
ggttacccac gtgttactca cc

22

<210> 20
<211> 23
<212> DNA
<213> Artificial

<220>
<223> a probe

<220>
<221> modified_base
<222> (23)..(23)
<223> FITC labelled

<400> 20
gttgaagggtg aagaaaaggg aat

23

<210> 21
<211> 24
<212> DNA
<213> Artificial

<220>
<223> a probe

<220>
<221> modified_base
<222> (1)..(1)
<223> LC Red705 labelled

<220>
<221> modified_base
<222> (24)..(24)
<223> phosphorylated

<400> 21
ggttgaagggtt gctttacagt acac

24

<210> 22
<211> 21

<212> DNA
<213> Artificial

<220>
<223> a probe

<220>
<221> modified_base
<222> (21)..(21)
<223> FITC labelled

<400> 22
cttggtag accctttca a

21

<210> 23
<211> 18
<212> DNA
<213> Artificial

<220>
<223> a probe

<220>
<221> modified_base
<222> (1)..(1)
<223> LC Red640 labelled

<220>
<221> modified_base
<222> (18)..(18)
<223> phosphorylated

<400> 23
gtgcattggc gtcttcac

18

<210> 24
<211> 19
<212> DNA
<213> Artificial

<220>
<223> a primer

<400> 24
cgagcttccg ttgaatgac

19

<210> 25
<211> 21
<212> DNA
<213> Artificial

<220>

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<223> a primer
<400> 25
ggtcattcgt ggccggaaaa a
21

<210> 26
<211> 21
<212> DNA
<213> Artificial

<220>
<223> a primer (GYPF)

<400> 26
ggwtayaarg twtcwggtag t
21

<210> 27
<211> 18
<212> DNA
<213> Artificial

<220>
<223> a primer (GYPR)

<400> 27
tcatgygtwc accttcat
18

<210> 28
<211> 23
<212> DNA
<213> Artificial

<220>
<223> a primer (GP1-F)

<220>
<221> misc_feature
<222> (7)..(7)
<223> n strands for any base

<220>
<221> misc_feature
<222> (11)..(11)
<223> n strands for any base

<220>
<221> misc_feature
<222> (12)..(12)
<223> n strands for any base

<220>
<221> misc_feature
<222> (14)..(14)

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<223> n strands for any base
<220>
<221> misc_feature
<222> (20)..(20)
<223> n strands for any base

<400> 28
attatgntgc nngncaaatn caa

23

<210> 29
<211> 21
<212> DNA
<213> Artificial

<220>

<223> a primer (GPI-R)
<400> 29
accaccwgaw acyttrtawc c

21

<210> 30
<211> 21
<212> DNA
<213> Artificial

<220>

<223> a universal primer 16S rRNA gene

<400> 30
tggagagttt gatcctggct c

21